

Claims:

1. A wireless local area network comprising:
at least one OFDM station capable of transmitting and receiving OFDM and DSSS/CCK modulated data; and
an intended receiving station;
wherein, the OFDM station learns of the modulation capability of the intended receiving station and transmits OFDM modulated data if the receiving station is capable of OFDM modulation and transmits DSSS/CCK modulated data if the receiving station cannot decode OFDM modulation.
2. The local area network of Claim 1, wherein the OFDM station learns of the modulation capability of the receiving station when the OFDM station joins the network.
3. The local area network of Claim 1, wherein the OFDM station is an access point of the network.
4. The local area network of Claim 1, wherein the OFDM station learns of the respective modulation capabilities of all other stations present in the network when the OFDM station joins the network.
5. The local area network of Claim 1, wherein the OFDM station learns of the modulation capability of the receiving station upon detection of a previous frame exchanged over the network by the receiving station.
6. The local area network of Claim 1 further comprising an access point for communicating with the stations and wherein the access point informs the OFDM station of the modulation capability of the receiving station.
7. The local area network of Claim 6, wherein the access point informs the OFDM station in a transmission opportunity transmitted to the OFDM station.

8. The local area network of Claim 1 further comprising an access point for communicating with the stations and, wherein the OFDM station informs the access point of its OFDM modulation capability during authentication of the OFDM station.

9. The local area network of Claim 1, wherein the OFDM station transmits a request-to-send frame comprising information representative of the OFDM modulation capability and receives a clear-to-send frame from the receiving station indicating an acceptance of the OFDM modulation.

10. The local area network of Claim 1, wherein the OFDM station transmits OFDM modulated request-to-send and clear-to-send frames to OFDM capable stations of the network.

11. The local area network of Claim 1, wherein the stations operate under the IEEE 802.11e specification.

12. The local area network of Claim 1, wherein the stations operate under the IEEE 802.11g specification.

13. The local area network of Claim 1, wherein the OFDM station transmits an OFDM modulated request-to-send frame to the receiving station if the receiving station is capable of OFDM modulation.

14. A station comprising:

a first communication arrangement for transmitting and receiving OFDM modulated data over a wireless local area network;

a second communication arrangement for transmitting and receiving DSSS/CCK modulated data over the wireless local area network; and,

means for learning of the modulation capability of a receiving station, the learning means being operably coupled to the first and second transmission means;

wherein the first communication arrangement transmits OFDM modulated data if the receiving station is capable of OFDM modulation and the second communication arrangement transmits DSSS/CCK modulated data if the receiving station cannot decode OFDM modulated data.

15. The station of Claim 14, wherein the learning means learns of the modulation capability of the receiving station upon detection of a previous frame exchanged over the network by the receiving station.

16. The station of Claim 14, wherein the second communication arrangement transmits a request-to-send frame comprising information representative of the OFDM modulation capability and receives a clear-to-send frame from the receiving station, the clear-to-send comprising an information element representative of an acceptance of the OFDM modulation.

17. The station of Claim 14, wherein the station transmits OFDM modulated request-to-send and clear-to-send frames to the receiving station if the receiving station is capable of OFDM modulation.

18. An access point within a local area network of a plurality of stations, for communicating with a station over the network, wherein the access point learns of the modulation capability of the station and transmits OFDM modulated data to the station if the station is capable of OFDM modulation and transmits DSSS/CCK modulated data to the station if the station cannot decode OFDM modulated data.

19. The access point of Claim 18, wherein the access point informs an OFDM station of the network of the modulation capability of another station with which the OFDM desires to communicate with.

20. The access point of Claim 18, wherein the access point comprises an hybrid coordinator and transmits a DSSS/CCK modulated transmission opportunity to an OFDM

station, the transmission opportunity comprising information representative of the modulation capability of a station, with which the OFDM station seeks to communicate.